CLAIMS:

1. A syringe assembly, comprising:

- an elongate container with a plunger slidably and sealingly engaged therein to form a cavity to receive fluid materials, the fluid materials including a nongaseous constituent and a gaseous constituent, the container further comprising a first outlet for dispensing fluid materials from the cavity under the action of the plunger;

- a gaseous material collection housing having a fluid materials receiving chamber, the housing having a first inlet to couple with the first outlet; and

- the housing having a second outlet and a second outlet valve portion for controlling the passage of the gaseous constituent from the chamber through the second outlet to a region outside the housing while retaining the non-gaseous constituent within the chamber.

2. An assembly as defined in claim 1, further comprising a first inlet valve portion for controlling the passage of the fluid materials through the first inlet.

3. An assembly as defined in claim 2, wherein the first valve portion includes a valve plate sealingly anchored with the housing adjacent the first inlet, a slitted disk, a check valve, a duck bill valve, a ball valve, or a combination of two or more thereof.

4. An assembly as defined in claim 1 wherein the second outlet valve portion includes a hydrophobic media layer.

5. An assembly as defined in claim 4 wherein the hydrophobic media layer includes a first surface facing the chamber and an opposite second surface, the second outlet valve portion further including an external housing adjacent the second surface.

6. An assembly as defined in claim 3 wherein the valve plate is spring biased to a closed position to form a unidirectional valve.

7. An assembly as defined in claim 1 wherein the second outlet valve portion includes a hydrophobic filter media layer sealingly anchored with the housing adjacent the second outlet.

8. An assembly as defined in claim 7 wherein the hydrophobic filter media layer includes a substantially wetting membrane or a substantially nonwetting membrane.

9. An assembly as defined in claim 1 wherein at least a portion of the housing is arranged to view fluid materials accumulating therein.

10. An assembly as defined in claim 9 wherein the portion is transparent or translucent.

11. An assembly as defined in claim 10 wherein substantially the entire housing is transparent or translucent.

12. A syringe assembly for discharging gaseous materials from a syringe, comprising an elongate container with a plunger slidably and sealingly engaged therein to form a fluid material receiving cavity, the container further comprising an outlet for dispensing fluid materials from the cavity; the plunger including transfer means for transferring gas constituents from the cavity to a region outside the cavity, the plunger further including at least one passage and a hydrophobic filter layer extending across the passage.

13. A method for discharging gaseous materials from a medical materials dispenser, comprising the steps of:

- filling a medical materials dispenser with fluid materials;

- fitting an outlet of the dispenser with an inlet of a collection housing which is arranged to receive fluid materials from the syringe cavity and which has the capability of selectively emitting a gaseous constituent

of the material from the housing, and of retaining one or more non-gaseous fluid constituents in the housing;

- orienting the dispenser to collect the gaseous constituent adjacent the outlet; and

- activating the dispenser so that at least the gaseous constituent exits the outlet and enters the housing wherein the dispensing step may include the emission of the gaseous constituent from the housing while the non-gaseous residual materials are substantially retained therein.

14. A method as defined in claim 13 further comprising the steps of removing the collection housing from the dispenser and actuating the dispenser to administer the fluid materials.

15. A method as defined in claim 14 wherein the dispenser includes a includes a syringe, an IV device, a catheter, or a combination of one or more thereof.

16. A process for treating a mammalian patient, which comprises:

- extracting an aliquot of the patient's blood with a first medical materials dispenser;

- subjecting the aliquot of blood extracorporeally to at least one stressor selected from an oxidative environment, UV radiation and elevated temperature up to about 45° C.;

- delivering the so-treated aliquot of blood to a chamber of a second medical materials dispenser;

- fitting an outlet of the second medical materials dispenser with an inlet of a residual material collection housing which is arranged to receive residual fluid materials from the chamber and which has the capability of emitting a gaseous component of the material from the housing, and of retaining substantially all non-gaseous fluid materials in the housing,

- orienting the second medical materials dispenser to collect, at the outlet, a gaseous constituent in the fluid material within the chamber;

- dispensing the medical materials dispenser so that at least the gas constituent exits the outlet and enters the housing, and thereafter;

- administering the so-treated aliquot of blood from the second medical materials dispenser to the patient.

17. A process as defined in claim 16, wherein the oxidative environment stressor to which the blood aliquot is subjected is a mixture of medical grade oxygen and ozone, with an ozone content from about 0.1-100 μg/ml, the ultraviolet radiation stressor is ultraviolet radiation from UV lamps emitting primarily at wavelengths of 280 nm or shorter, and the elevated temperature stressor is a temperature in the range from about 38-43° C.

18. A process as defined in claim 16 wherein the blood aliquot is of volume of about 0.1 ml to 400 ml.

19. A process according to claim 17 wherein the chosen stressor or combination of stressors is applied to the blood aliquot for a period of time from 0.5-60 minutes.

20. A process as defined in claim 16, wherein the oxidative environment stressor to which the blood aliquot is subjected is a mixture of medical grade oxygen and ozone, with an ozone content from about 0.1-100 μg/ml.

21. A process as defined in claim 16 wherein the ultraviolet radiation stressor is ultraviolet radiation from UV lamps emitting primarily at wavelengths of 280 nm or shorter.

22. A process as defined in claim 16 wherein the elevated temperature stressor is a temperature in the range from about 38-43° C.

23. A delivery device, comprising an elongate container with a plunger slidably and sealingly engaged therein to form a fluid material receiving cavity, the container further comprising a first outlet and a gas discharge means for discharging gases from the cavity under the action of the plunger and dispensing means for dispensing fluid materials from the cavity under the action of the plunger, wherein the gas discharge means includes a transfer portion formed on the plunger for transferring a gas constituent from the cavity to a region outside the cavity.

24. A gas collection device for a medical fluid delivery system, comprising:

- a gaseous material collection housing having an inner gaseous material receiving chamber, the housing having a housing inlet to couple with an outlet of the medical fluid delivery system; and

- the housing having a housing outlet and a housing outlet valve portion for controlling the passage of gaseous material from the chamber through the outlet to a region outside the housing while retaining non-gaseous materials within the chamber.

25. A device as defined in claim 24 further comprising an inlet valve portion for controlling the passage of the gaseous material through the housing inlet.

26. A device as defined in claim 25, wherein the inlet valve portion includes a valve plate sealingly anchored with the housing adjacent the inlet.

27. A device as defined in claim 26 wherein the valve plate is spring biased to a closed position to form a unidirectional valve.

28. A device as defined in claim 24 wherein the housing outlet valve portion includes a hydrophobic filter media layer sealingly anchored with the housing adjacent the second outlet.

29. A device as defined in claim 24 wherein the medical fluids delivery system includes a syringe, an IV device, a catheter, or a combination of one or more thereof.

30. A device as defined in claim 24 wherein the housing takes the form of a cap and is operable to seal the outlet of the medical fluids delivery system when not in use.

31. An assembly for discharging gaseous materials from a medical fluid supply device comprising medical fluid dispensing means, the fluid material dispensing means having first outlet means, collection means having a gaseous material receiving means with first inlet means to couple with said first outlet means, second outlet means for emitting gaseous materials from said gaseous material receiving means, second outlet valve means for controlling the emission of gaseous material from said receiving means through said outlet means to a region exterior thereto while retaining non-gaseous materials within the receiving means.

32. An assembly as defined in claim 31 further comprising first inlet valve means for controlling the passage of the gaseous material through said first inlet means.

33. An assembly as defined in claim 32 wherein the second outlet valve means includes hydrophobic filter means.

34. An assembly as defined in claim 31 wherein the medical fluid dispensing means includes a syringe, an IV device, or a catheter, or a combination thereof.

35. A process for treating a mammalian patient, which comprises:

- a step for extracting an aliquot of the patient's blood with a first medical materials dispenser;

- a step for subjecting the aliquot of blood extracorporeally to at least one stressor selected from an oxidative environment, UV radiation and elevated temperature up to about 45° C.;

- a step for delivering the so-treated aliquot of blood to a chamber of a second medical materials dispenser;

- a step for fitting an outlet of the second medical materials dispenser with an inlet of a residual material collection housing which is arranged to receive fluid materials from the chamber and which has the capability of emitting a gaseous component of the material from the housing, and of retaining substantially all non-gaseous fluid materials in the housing,

- a step for orienting the second medical materials dispenser to collect, at the outlet, a gaseous constituent in the fluid material within the chamber;

- a step for dispensing the medical materials dispenser so that at least the gas constituent exits the outlet and enters the housing, and thereafter;

- a step for administering the so-treated aliquot of blood from the second medical materials dispenser to the patient.

36. A dispenser assembly, comprising:

- an elongate container with a plunger slidably and sealingly engaged therein to form a cavity to receive fluid materials, the fluid materials including a nongaseous constituent and a gaseous constituent, the container further comprising a first outlet for dispensing fluid materials from the cavity under the action of the plunger;

- a gaseous material collection housing having a fluid materials receiving chamber, the housing having a first inlet to couple with the first outlet; and

- the housing having a second outlet and a valve assembly for controlling the passage of the gaseous constituent from the chamber through the second outlet to a region outside the housing while retaining the

non-gaseous constituent within the chamber; the valve assembly including a first valve portion including an hydrophobic media layer and a normally closed second valve portion spaced from the first valve portion to form an intermediate chamber therebetween.

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